

R E M A R K S

This is in response to the Office Action that was mailed on June 15, 2006. Original independent claim 1 is divided into two separate independent claims – amended claim 1 and new claim 6 – based upon the method of preparing the claimed catalyst, with method “A” being retained in amended claim 1 and method “B” being recited in new claim 6. Dependent claims 2-5 are amended to depend alternatively from independent claim 1 (amended) or claim 6. In claim 4, the Roman numerals have been replaced by Arabic numerals. This is a non-narrowing amendment. Claim 5 has been amended to recite “the group consisting of”. This is a non-narrowing amendment. New claim 7 is based upon such disclosure as that in lines 12-18 on page 15 of the specification. New claim 8 is based upon working Examples 4 and 5. The wording in the specification is amended consonant with the amendment involving claims 1 and 6. A typographical error is corrected on page 40 of the specification. No new subject matter is added to the application by this Amendment. Claims 1-8 are pending in the application.

Objection was raised to the Abstract. The Abstract has been amended in accordance with the suggestion of the Examiner.

Claims 1-5 were rejected under the second paragraph of 35 USC § 112 as failing to define the invention properly. Office Action, page 2. Claim 1 as amended specifies contacting

the components of the catalyst, which necessarily includes the halogen component thereof. The language “the materials” has been replaced for better antecedent basis. The term “coexistence” has been replaced by clearer language. The language regarding “suspension” has been clarified. The “plural times” embodiment of the invention has been expressed more clearly. The dependency of claim 3 has been corrected. The language “group consisting of” has been inserted into claim 5 as suggested by the Examiner. It is respectfully submitted that the claims in their current form satisfy the requirements of the second paragraph of 35 USC § 112.

Objection was raised to claims 1 and 4. Office Action, page 3. The superfluous terminology “method of” has been removed from claim 1, and the Roman numerals in claim 4 have been replaced with Arabic numerals.

Claims 1-5 were rejected under 35 USC § 102(b) as being anticipated by EP 0 585 569 A1 to Toida et al., assigned to Mitsui Petrochemical Industries, Ltd., hereinafter “Toida”. Office Action, page 3. The rejection is respectfully traversed. Exhibit A, enclosed herewith provides a visual depiction of relevant technological features.

In Toida, a solid titanium catalyst compound is obtained by a process comprising A) contacting a magnesium compound with an electron donor compound in a hydrocarbon solvent to obtain a magnesium solution, B) contacting the magnesium solution with “a compound having

at least two ether linkages existing through a plurality of atoms”, corresponding to electron donor (b) in the present invention, to obtain a magnesium polyether solution, (C) contacting the magnesium polyether solution with a liquid titanium compound to obtain a reaction product, and D) filtering said product.

In contrast, the invention of present claim 1 has a technical feature of contacting a solid adduct, which is in a suspended state in a hydrocarbon solvent, with an electron donor (b) and a liquid titanium compound. Thus the method of preparing a solid catalyst component in the present invention and in Toida differ in the state of the mixture of the compound. This invention employs a solid in a suspended state, while Toida teaches solutions.

Present claim 6 does not use a solvent in connection with contacting a solid adduct and an electron donor (b) or in connection with contacting the product thereof and a liquid titanium compound. Thus this method of preparing a solid catalyst component and the method of Toida differ in the compounds used. The mixture of the compounds in claim 6 herein is in a suspended state, which is also a different form from the form of reactants employed in the method of the Toida technology.

In the present specification, Examples 1-6, using a solid titanium component [S1], and Examples 7, 8, and 10, using a solid titanium component [S3], correspond to the process of present claim 1. Example 9, using a solid titanium component [S2], corresponds to present claim 6. As can be seen from the results reported in the specification, use of titanium components [S1] to [S3] in accordance with the present invention provides a propylene polymerization activity of

more than 59 Kg-PP/mmol-Ti. In contrast, the solid titanium compounds disclosed in Toida provided a propylene polymerization activity of at highest 53.9 Kg-PP/mmol-Ti. This level of improvement provided by the present invention – more than 5 Kg-PP/mmol-Ti – is of immense significance in industrial scale polymerization processes.

Additional considerations:

CLAIM 2. Claim 2 herein requires that the electron donor (b) be a compound having two or more ether linkages. In this embodiment of the invention, the polymerization activity of the catalysts is greater than 70 Kg-PP/mmol-Ti, which provides additional differentiation over the Toida technology.

CLAIM 8. The Toida reference teaches that the preferred solvents are aliphatic hydrocarbons, and thus teaches away from the toluene solvent of claim 8.

Withdrawal of all rejections of record – and passage of this application to Issue – are earnestly solicited. If there are any questions, please contact Richard Gallagher, Registration No. 28,781, at (703) 205-8008.


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If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

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